



CGMS-37, CMA-WP-04
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Preliminary Consideration on FY-4 Frequency Network

Summary of the Working Paper.

Program is being planned for FY-4s, the new generation of Chinese geostationary meteorological satellites to take place the FY-2s after 2014. Preliminarily, FY-4 frequency network is considered with respect to the requirement for the increased amount of data in transmission.

Preliminary Consideration for FY-4 Frequency Network

1 INTRODUCTION

FY-4s is the new generation of Chinese meteorological Satellites to take over the FY-2. FY-4 Program is being planned. Preliminary consideration on FY-4 frequency network is given with respect to the frequency requirement for the increased amount of data in transmission.

2 FY-4 FREQUENCY NETWORK

Network name: FY-4 Series Geostationary Meteorological Satellites

Launch of first satellite: ~ 2014

General objective: 1) Collect atmospheric and surface condition parameters such as vertical temperature and moisture profiles, sea surface temperature, clouds, occurrence of lightning, using instruments sensing in visible, near-IR and thermal IR frequencies, and 2) DCP.

Orbit: Geostationary;

Locations: 86.5E, 105E, and 123.5E. (additional locations to be considered)

Number of satellites: 7

Main ground stations: Beijing (CDAS), Grangzhou(TARS), Urumqi(TARS), and Melbourne(TARS, backup)

1. Raw data transmission (downlink): x-band 7450-7550 MHz (CR and CL)
(or K_a band 18.1-18.4GHz; optional)

2. HRIT: 8175-8215 MHz (data uplink), 1671-1691MHz (data downlink)

3. LRIT and WAIB(Weather Alarm Information Broadcast):
2056-2060MHz (data uplink), 1696 -1698MHz (data downlink)

4. DCPS: Domestic channel: 401.1-401.4MHz (uplink)
International channel: 402.0-402.1MHz (uplink)
1690-1692MHz (downlink)

5. Telemetry and command: 2025-2110MHz (Uplink), 2200-2290MHz (downlink)